Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.(original) A process for improving the integrity of a layer of silicon oxide having an upper surface, comprising:

on a substrate, providing said layer of silicon oxide;

by means of decoupled plasma nitridation, forming a nitrogen bearing layer that extends downwards a distance from said upper surface; and

then annealing said nitrogen bearing layer in a mixture of nitrogen and oxygen, at a temperature between about 1,000 and 1,100 °C and a pressure between about 5 and 15 torr, for between about 60 and 150 minutes, whereby said nitrogen bearing layer becomes substantially free of structural defects.

2.(previously presented) The process described in claim 1 wherein the step of decoupled plasma nitridation further comprises using between about 250 and 350 watts of RF power at a pressure of 1-3 x 10^{-2} torr for 10-300 seconds.

3.(original) The process described in claim 1 wherein said nitrogen bearing layer is selected from the group consisting of silicon nitride and silicon oxynitride.

4.(original) The process described in claim 1 wherein said nitrogen bearing layer contains at least 3 atomic percent nitrogen.

5.(original) The process described in claim 1 wherein said mixture of nitrogen and oxygen contains between about 10 and 30 volume percent oxygen.

6.(original) The process described in claim 1 wherein said distance that said nitrogen bearing layer extends downwards from said upper surface is between about 2 and 10 Angstroms.

7.(original) The process described in claim 1 wherein said layer of silicon oxide has a thickness between about 8 and 30 Angstroms.

8.(original) A process for forming a field effect transistor, comprising:

providing a silicon wafer, of a first conductivity type, and forming thereon a layer of silicon oxide having an upper surface;

by means of decoupled plasma nitridation, forming a nitrogen bearing layer that extends downwards a distance from said upper surface;

then annealing said nitrogen bearing layer in a mixture of nitrogen and oxygen, at a temperature between about 1,000 and 1,100 °C and a pressure between about 5 and 15 torr, for between about 60 and 150 minutes, whereby said nitrogen bearing layer becomes substantially free of structural defects;

depositing a layer of polysilicon on said layer of silicon oxide;

patterning and etching said layer of polysilicon and said layer of silicon oxide to form a gate pedestal on a layer of gate oxide; and

using said gate pedestal as a mask, forming source and drain regions of a second conductivity type that immediately abut said gate oxide, thereby forming said field effect transistor and whereby said field effect transistor has an electrical performance as good as a device that is similar in all respects to said field effect transistor except for the absence of said nitrogen bearing layer.

9.(original) The process described in claim 8 wherein said gate pedestal has a width between about 0.05 and 0.25 microns.

10.(previously presented) The process described in claim 8 wherein the step of decoupled plasma nitridation further comprises using between about 250 and 350 watts of RF power at a pressure of 1-3 x 10^{-2} torr for 10-300 seconds.

11.(original) The process described in claim 8 wherein said nitrogen bearing layer is selected from the group consisting of silicon nitride and silicon oxynitride.

12.(original) The process described in claim 8 wherein said nitrogen bearing layer contains at least 3 atomic percent nitrogen.

13.(original) The process described in claim 8 wherein said mixture of nitrogen and oxygen contains between about 10 and 30 volume percent oxygen.

14.(original) The process described in claim 8 wherein said distance that said nitrogen bearing layer extends downwards from said upper surface is between about 2 and 10 Angstroms.

15.(original) The process described in claim 8 wherein said layer of silicon oxide has a thickness between about 8 and 30 Angstroms.